

Abundance and Run Timing of Adult Salmon in the Kwethluk River, Yukon delta National Wildlife Refuge, Alaska, 2000

Abstract: From June 22 to September 15, 2000, a resistance board weir was used to collect abundance, run timing, and biological data from Pacific salmon returning to the Kwethluk River, a tributary to the lower Kuskokwim River. This was the first year of a cooperative project initiated under the Federal Subsistence Fishery Management program to provide reliable data necessary for managing Refuge fishery resources that contribute to major subsistence and commercial fisheries. A total of 11,691 chum *Oncorhynchus keta*, 3,547 Chinook *O. tshawytscha*, 1,049 sockeye *O. nerka*, 1,407 pink *O. gorbuscha*, and 25,610 coho *O. kisutch* salmon were counted through the weir. Peak weekly passage occurred: July 9 to 15 for chum and Chinook; June 25 to July 1 for sockeye; August 13 to 19 for pink; and August 13 to 19 and August 27 to September 2 for coho salmon. Sex composition of the chum escapement shifted from predominantly males to females at the midpoint of the run. Females constituted 49.1% of the total chum escapement. The proportions of females varied by week for Chinook, sockeye, and coho. Females represented 22.1% of the Chinook, 49.2% of the sockeye, and 44.9% of the coho salmon escapement. Dominant age groups for salmon were 0.3 for chum; 1.3 and 1.4 for male and female Chinook, respectively; 1.3 for sockeye, and 2.1 for coho. Gill net marks were observed on 2.8% of the chum, 3.9% of the Chinook, 2.5% of the sockeye, 1.8% of the pink, and 2.1% of the coho salmon passing through the weir. Forty-eight Dolly Varden *Salvelinus malma*, 31 rainbow trout *O. mykiss*, 778 whitefish (*Prosopium cylindraceum* and *Coregonus* spp.), and 53 Arctic grayling *Thymallus arcticus* were counted through the weir. Only larger-sized resident species are represented because of picket spacing. Some chum and sockeye were not identified correctly during the first two weeks of operations; therefore, counts were reapportioned between these two species. A high-water event submerged a portion of the weir from early morning on September 7 through 1630 hours on September 11. Consequently, no counts were conducted from September 8 to 9, and the coho escapement count under represents the actual escapement.

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